
कार्यालय प्रयोजनों के लिए मेजों
और कुर्सियों के आयाम
(तीसरा पुनरीक्षण)

Dimensions of Tables and Chairs
for Office Purposes
(Third Revision)

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FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1966 and subsequently revised in 1981 and 1991. This standard specifies essential dimensions of tables and chairs for office purposes. This revision has been taken up to revise height, armrest and backrest of the chair and table based on the latest anthropometric data available in India.

In this revision, following modifications/inclusions have been taken into account:

- a) Provisions regarding armrest of a chair are incorporated, in detail,
- b) Backrest of an office chair is also incorporated which shall provide adequate support for the office worker in lumbar region, and
- c) Leg room and foot rest details have also been incorporated.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

DIMENSIONS OF TABLES AND CHAIRS FOR OFFICE PURPOSES

(Third Revision)

1 SCOPE

This standard specifies essential dimensions of tables and chairs for office purposes.

2 REFERENCE

The standard listed below contains provisions, which through reference in this text constitute provisions of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

IS No.	Title
4414 : 1990	Wooden table tops — Specification (second revision)

3 TERMINOLOGY

For the purpose of this standard, the following terms shall apply.

3.1 Office Chair (see Fig. 1 and Fig. 2)

3.1.1 Seat

3.1.1.1 Seat height — Seat height A of the chair means

the distance between the highest point on the line joining the middle point of the front and back of seat of chair and the floor surface. In the case of cushioned seats or seats with springs the height shall be measured after applying a uniform load of 600 N on the entire surface of the seat.

3.1.1.2 Effective seat depth — The effective depth B of the seat is the horizontal distance measured on the centre line of seat width C from the front edge, to the vertical projection of the point X of the chair back, on this centre line.

3.1.1.3 Seat width — The width C of the chair means the dimension measured from side to side on a line parallel to the front of the chair, and at the middle of seat.

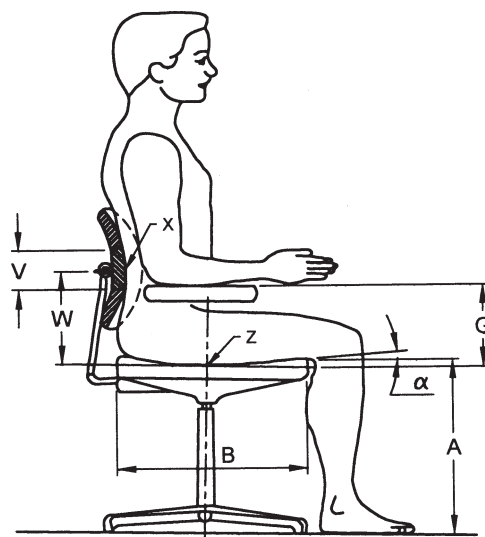
3.1.2 Armrest

3.1.2.1 Height (G) — The height G is the vertical distance measured from point Z to the substantially flat part of the armrest.

3.1.2.2 Inside dimension (G_1) — The inside dimension G_1 is the horizontal distance between armrests measured at the height of the substantially flat part of the armrest.

3.1.2.3 Length (G_2) — The length G_2 is the setback of armrests in relation to the front of the seat.

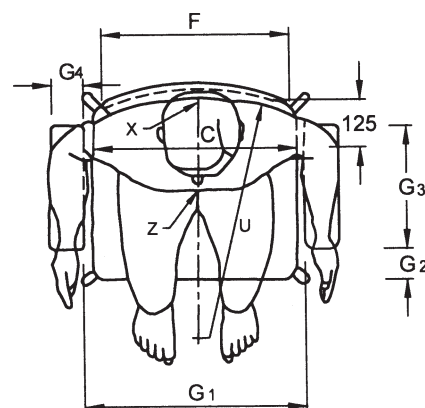
3.1.2.4 Length (G_3) — The length G_3 is the horizontal distance between the front and back of the substantially flat part of the armrest.



All dimensions in millimetres.

NOTE — The distance B shall be measured from front edge of the seat to the vertical projection of the point X , measured on the centre line of seat width C .

FIG. 1 OFFICE CHAIR OF ADJUSTABLE REVOLVING TYPE



All dimensions in millimetres.

FIG. 2 OFFICE CHAIR (PLAN VIEW)

3.1.2.5 Width (G_4) — The width G_4 is the horizontal distance between the edges of the substantially flat part of the armrest.

3.2 Office Chair of Adjustable Revolving Type (see Fig. 1 and Fig. 2)

3.2.1 Seat

3.2.1.1 Seat height (A) — The height A of a chair seat is the height of the highest point of the front edge of the seat measured from the floor on the centre line of seat width C .

3.2.1.2 Effective seat depth (B) — The effective depth B of the seat is the horizontal distance measured on the centre line of seat width C from the front edge to the vertical projection of the point X of the chair back on this centre line. If the back is adjustable, B is measured with the back adjusted to its mid height.

3.2.1.3 Seat width (C) — The width C of the seat is the horizontal distance between the upper edges of the chair sides, measured perpendicularly to the centre line of width of the seat, at a point 125 mm forward from the vertical projection of the point X of the chair back on this line, and with the chair back placed in its most forward position.

3.2.2 Backrest

3.2.2.1 Reference point (X) — Point X is the centre of the area on the back-pad that provides essential lumbar support.

3.2.2.2 Height (V) — Height V is the height of the area on the back-pad that provides essential lumbar support.

3.2.2.3 Backrest height (W) — The backrest height W is the vertical height from X to Z , measured with the seat (if upholstered) compressed. If the backrest is adjustable, it is placed in its most forward position. If the back-pad is pivoted about a horizontal axis, it is put in a vertical position.

3.2.2.4 Reference point (Z) — Point Z is the intersection of the axis of rotation of the seat and the upper surface of the seat compressed.

3.2.3 Armrest — Same as 3.1.2.

3.3 Office Table

3.3.1 Length (O) — The length O , of office table is the horizontal dimension of the longer side of the top of the work surface.

3.3.2 Width (P) — The width P is the horizontal dimension of the shorter side of the top of the work surface.

3.3.3 Height (H) — The height H is the vertical dimension from the floor to the top of the work surface

measured on the front edge of the surface at the mid-point of the length.

3.3.4 Leg Room — The free space for the legs and feet under the work surface.

3.3.4.1 Height (R) — The height R is the vertical dimension from the floor to the underside of the top of the desk, table or worktop.

3.3.4.2 Length (T) — The length T is the horizontal dimension across the knee-hole.

3.3.4.3 Width (S) — The width S is the horizontal dimension of the leg room at the underside of the top of the desk, table or worktop.

3.3.4.4 Width (S_1) — The width S_1 is the horizontal dimension of the leg room.

3.4 Footrest

3.4.1 The working position may need to include a footrest in which case the footrest shall comply with the requirements as given in 3.4.1.1 to 3.4.1.3.

3.4.1.1 It shall be free standing.

3.4.1.2 It shall ensure sufficient space for the feet and allow changes in position. The top surface shall be flat.

3.4.1.3 Its dimensions shall be as specified in 4.4.

4 DIMENSIONS

4.1 Office Chairs

The dimension of the office chairs shall be as specified in Table 1.

4.1.1 Slope of the Backrest

The angle between the vertical plane of the backrest and the horizontal plane of the seat shall be 95° to 105° .

4.2 The dimensions of office chairs, adjustable type shall be as specified in Table 1.

4.3 Office Table (see Figs. 3, 4 and 5)

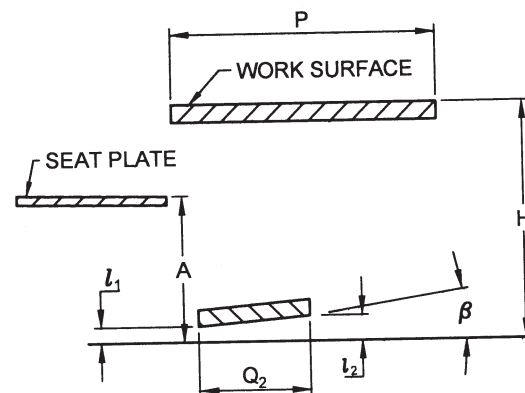


Fig. 3 Table

Table 1 Dimensions of Office Chairs
(Clauses 4.1 and 4.2)

Sl No. (1)	Items (2)	Dimensions (3)
i)	Seat	Dimensions (in mm)
	<i>A</i> Seat height:	
	1) Chair with fixed height seat	440 ± 10
	2) Chair with adjustable height seat	435 to 525
	<i>B</i> Effective seat depth:	
	1) Chair with fixed back	390 <i>Min</i> , 450 <i>Max</i>
	2) Chair with adjustable back	390 <i>Min</i> , 480 <i>Max</i>
	<i>C</i> Seat width	440 <i>Min</i>
	Slope of the seat in relation of horizontal from front to back	0° - 6° backward
ii)	Armrests (if Provided)	Dimensions (in mm)
	<i>G</i> Height of armrests above point Z of the seat	200 ± 10
	<i>G</i> ₁ Inside distance between armrests	450 <i>Min</i>
	<i>G</i> ₂ Set back of armrests in relation to the front of the seat	50 <i>Min</i>
	<i>G</i> ₃ Length of the armrests	200 <i>Min</i>
	<i>G</i> ₄ Width of the armrests	40 <i>Min</i>
iii)	Backrest	Dimensions (in mm)
	<i>W</i> Centre of the backrest above the Z:	
	1) Chair with fixed backrest	150 <i>Min</i> - 210 <i>Max</i>
	2) Chair with adjustable backrest or adjustable lumbar support pad	150 <i>Min</i> - 260 <i>Max</i> (Backrest adjustment – 50 mm (Min))
	3) Chair with pivoted backrest	260 <i>Max</i>
	<i>V</i> Vertical height of area of essential lumbar support (having <i>X</i> at its centre)	200 <i>Min</i>
	Width of area of essential lumbar support	360 <i>Min</i>
	<i>U</i> Horizontal curvature of lumbar support, radius	400 <i>Min</i> , 450 <i>Max</i>
iv)	Tilting	104° to 120° (see Note 2)
NOTES		
1	The range of adjustment provided shall include at least the specified minimum range and may be larger.	
2	Care shall be taken that in case of backrest the top edge does not end at the middle of the wing bone of the back. It should be raised either up to the shoulder level or it should be below the lower part of the wing bone in normal upright casual sitting posture while upper arm hanging vertically and elbow flexion is 90°.	
3	Backrest should provide lumbar support (preferably height adjustable minimum 50 mm) so that it can be appropriately placed to fit the lower back.	
4	For high backrest angle range — 20° for lower backrest range restricted from 95° to 105°.	

4.3.1 Dimensions of the Table Tops

Dimensions of table tops shall be in accordance with IS 4414.

4.3.2 Height of the Table

Height of the table shall be as specified in Table 2.

4.3.2.1 Leg room

In all cases the required leg room as specified in Table 2 shall be provided, and the space defined by the dimensions *R*, *S*, *S*₁ and *T* (see Fig. 4 and 5) shall be left free, except for a footrest (if provided).

4.4 Footrest (see Figs. 3, 4 and 5)

The dimensions of footrests (if provided) shall be:

Length <i>Q</i> ₁	:	450 mm, <i>Min</i>
Width <i>Q</i> ₂	:	350 mm, <i>Min</i>
Height		
Fixed	{	front edge <i>l</i> ₁ , 40 ± 5 mm rear edge <i>l</i> ₂ , 100 mm, <i>Min</i>
Adjustable	{	front edge <i>l</i> ₁ , 35 mm, <i>Min</i> slope 10° to 20°

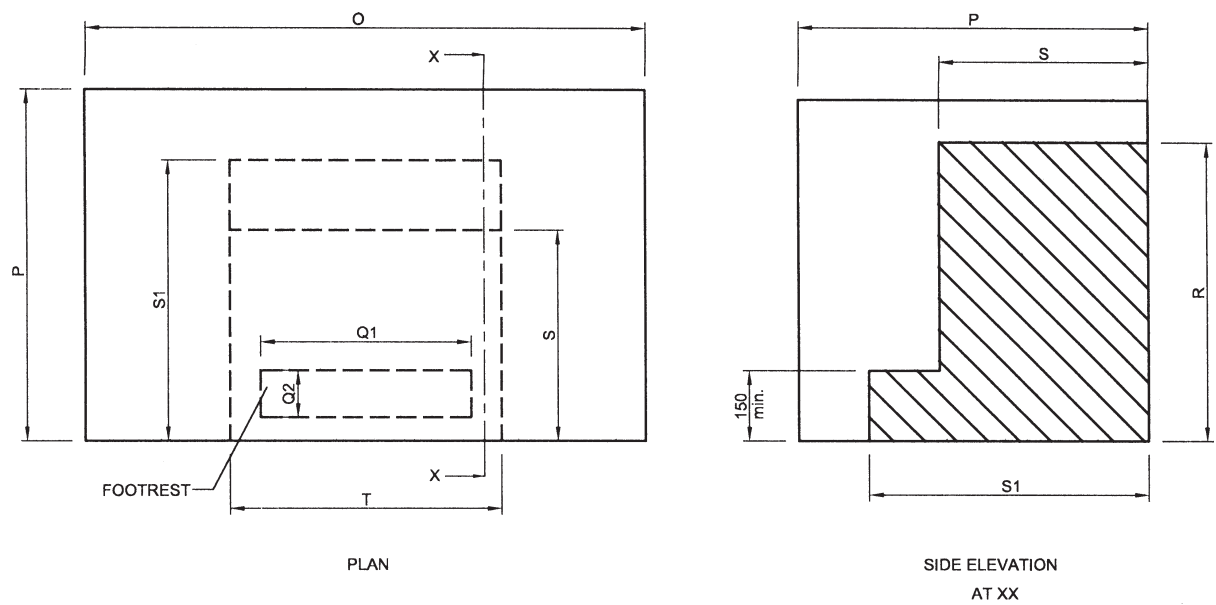


FIG. 4 LEG ROOM

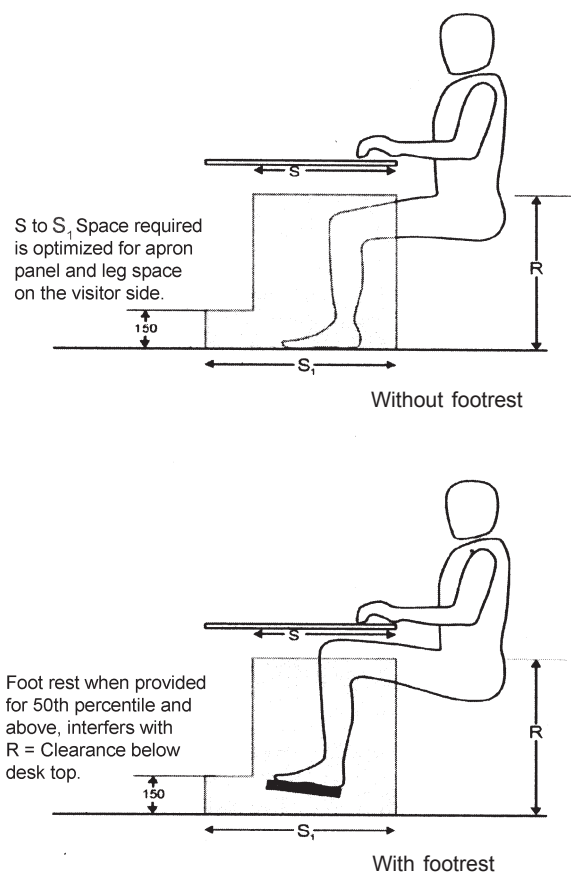


FIG. 5 TABLE (WITH AND WITHOUT FOOTREST)

Table 2 Dimensions of Tables
(Clauses 4.3.2 and 4.3.2.1)

SI No.	Items	Dimensions mm
(1)	(2)	(3)
i) H	a) Height of top surface: Fixed height top	730 ± 10
	b) Height of top surface (considering usage of typewriter or accounting machine)	710 ± 10
ii) H_1	Height at which typewriter or accounting machine is accommodated	635 ± 5
iii) R	Clearance below desk top:	
	a) Fixed height top	640, Min
	b) Adjustable height top	610, Min
iv) T	Clearance across the knee-hole	580, Min
v) S	Leg room, front to back (upper side)	450, Min
vi) S_1	Leg room, front to back (lower side)	600, Min

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Composition of Furniture Sectional Committee, CED 35

<i>Organization</i>	<i>Representative(s)</i>
In Personal Capacity (<i>Pratap Nursery Lane Panditwari, Dehradun</i>)	SHRI K. S. PRUTHI (Chairman)
Association of Furniture Manufacturers and Traders (I) Mumbai	REPRESENTATIVE
Blowplast (BP) Ergonomics Ltd, Nagpur	DR NITIN SUDAME DR GITA PIRAMAL (<i>Alternate</i>)
Central Building Research Institute, Roorkee	SHRI S. K. NEGI SHRI ASHOK KUMAR (<i>Alternate</i>)
Central Public Works Department, New Delhi	SHRI RAJESH KUMAR DHIMAN SHRI ARUN KUMAR TYAGI (<i>Alternate</i>)
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Directorate General of Supplies & Disposals, New Delhi	DEPUTY DIRECTOR GENERAL (QA)
Directorate of Education, Delhi, Delhi	REPRESENTATIVES
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Forest Research Institute, Dehradun	DR SADHNA TRIPATHI DR KISHNA KUMAR (<i>Alternate</i>)
Godrej & Boyce Manufacturing Co Ltd, Mumbai	SHRI E. VENKATESWARALU SHRI NIRAV SHAH (<i>Alternate I</i>) SHRI LALITESH MANDREKAR (<i>Alternate II</i>)
Indian Furniture Products Ltd (Zuari), Tiruvallur	SHRI C. M. SATHEESH KUMAR SHRI S. SARAVANAN (<i>Alternate</i>)
Indian Institute of Architects, Mumbai	SHRI VIKRAMRAY PRAMODRAY PANDYA
Indian Stainless Steel Development Association (ISSDA), Gurugram	SHRI ROHIT KUMAR SHRI JOUSLINE GEORGE (<i>Alternate</i>)
Institute of Indian Interior Designers, Mumbai	SHRIMATI CHIRASHREE THAKKAR
Kendriya Bhandar, New Delhi,	REPRESENTATIVES
Ministry of Women and Child Development, New Delhi	REPRESENTATIVES
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National Institute of Occupation Health (NIOH), Ahmedabad	SHRI J. MAJUMDAR
Nilkamal Limited, Mumbai	SHRI V. S. IYER SHRI ARVIND JANARDHANAM (<i>Alternate</i>)
Office of Development Commissioner, Micro Small and Medium Enterprises, New Delhi	SHRI K. L. RAO SHRI K. K. FUNDA (<i>Alternate</i>)
School of Planning & Architecture, New Delhi	PROF MANOJ MATHUR PROF ARUNA RAMANI GROVER (<i>Alternate</i>)
The Supreme Industries Limited, New Delhi	SHRI SANJEEV JAIN SHRI MUKESH KAUL (<i>Alternate I</i>) SHRI SANDAY DOGRA (<i>Alternate II</i>)
BIS Directorate General	SHRI B. K. SINHA, SCIENTIST 'E' & HEAD (Civil Engg) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
SHRI ABHISHEK PAL
Scientist 'B' (Civil Engg), BIS

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